TREE KIT

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THE SAN FRANCISCO FRIENDS OF THE URBAN FOREST

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(415) 621-TREE

AN ORGANIZATION DEDICATED TO THE
PRESERVATION AND ENHANCEMENT OF
SAN FRANCISCO'S URBAN FOREST,
WITH A SPECIAL FOCUS ON STREET TREES

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INTRODUCTION

WHY IS A TREE PLANTED?

WHAT DO YOU NEED?

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HOW TO PLANT A TREE

STREET TREE GUIDE

Trees are a vital ingredient in the overall quality of our lives, and they loom large in the minds of San Franciscans. Our citizens are justly proud of the fact that San Francisco is one of the world's most beautiful and most livable cities — and that it is so because of the care and concern our people have for trees and green space. Trees contribute enormously to the living vitality that is San Francisco, and they always will be essential to our heritage.

Dianne Feinstein

Trees were never a natural feature of the hilly grassland and coastal sand dunes of the original area of San Francisco and the lack of trees was not out of place in such a landscape. But as the city grew into an urban area the need for street trees became of paramount importance. However, it was not until after World War II that a city-wide street tree program was undertaken as an ongoing project.

Two of the most important problems of street tree plantings are selection and maintenance of the best and most suitable tree for a particular site. This booklet will assist in the solution of both of these problems.

Elizabeth McClintock
Research Associate, Department of Botany,
U.C. Berkeley

Residents of our city plant trees for many reasons; for neighborhood beautification, as sound barriers, as living air filters, and as assets to property values. In recent years, San Franciscans in all sections of the City have planted thousands of street trees and this tree kit is intended to help us build on these efforts.

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The responsibility for overseeing tree planting in San Francisco rests with:

The Street Planting Division
Department of Public Works
2350 19th Avenue
San Francisco, CA 94116
558-3376

The basic responsibility of the Street Planting Division is the maintenance of City-owned street trees and specified roadside landscaped areas and median strips.

The Division issues applications for the required tree planting permit, surveys the site to assure that the tree will not interfere with underground utilities, etc., and marks the sidewalk flags which are to be removed. The permit is issued to the property owner.

Assistance is also available from the Division on selection of species and proper planting and maintenance practices.

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WHY IS THE TREE BEING PLANTED

There are many reasons that can influence the decision to plant a tree.

You may be part of a group of neighbors who want to undertake a cooperative tree planting. You may be interested in planting a tree because of the many benefits trees afford.

You may be taking into consideration the fact that trees add to the value of property, while falling into the category of improvement that does not add to your tax assessment.

WHY IS A TREE PLANTED?

Some of these benefits are that:

Trees represent nature and contact with natural resources for many city dwellers.

Trees increase neighborhood pride by involving people in improving and caring for their surroundings.

Trees help draw customers to business areas.

Trees screen harsh development and give a community visual character and unity.

Trees block winds, settling dust, creating comfortable outdoor spaces, and reducing heat loss from buildings.

Trees soften noise by breaking up sound waves with leaves and branches.

Trees release oxygen and absorb carbon dioxide, freshening city air.

Trees cool air by giving shade and releasing moisture.

Trees hold soil with their roots and break the fall of raindrops with their leaves.

Trees provide wildlife habitat for birds and mammals.

WHAT DOES ONE NEED TO HAVE A TREE IN SAN FRANCISCO?

In order to plant street trees in San Francisco three initial requirements must be met. These requirements are: Approved Tree Planting Permits, acceptance of maintenance responsibility, and appropriate space for the tree (or trees).

TREE PLANTING PERMIT

A permit is required to plant, maintain or remove trees, shrubs or ground covers in City sidewalk areas. An application for this permit shall be made *ONLY* by the property owner to the Department of Public Works. This form is provided with this Tree Kit or by the Street Planting Division.

Application for the permit allows personnel of the Street Planting Division to inspect the site, review the application, and mark the sidewalk flags for cutting. Upon approval, a permit will be issued.

A permit is issued with the understanding that the City and its agents and employees are held harmless from any damage or injury inflicted by a privately planted and maintained tree.

The permit application form contains information on planting regulations and owner responsibilities, as well as suggestions for alternate methods of installing plants.

WHAT DO YOU NEED?

Now that you have decided to plant a tree there are some things you must consider to help you determine which of the trees described in the Tree List is appropriate for you.

1. *Adequate space must be allowed for the full grown tree. The tree list gives you information regarding the mature size and growth forms of the varieties listed.*

2. *The site must meet the requirements outlined in the Permit applications.*

3. *If there is not an appropriate space on your sidewalk for a tree well you may want to consider a tree in a container. City requirements regarding containers are listed on Permit application.*

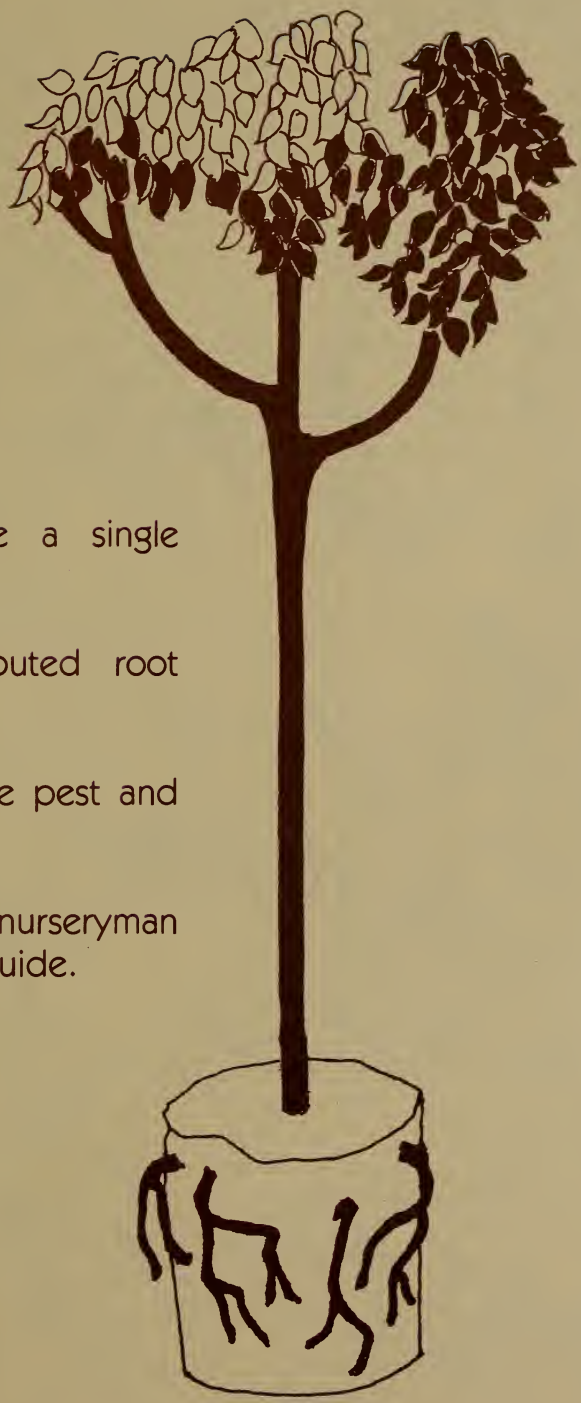
4. *Care should be taken to avoid planting in locations where mature trees might interfere with overhead wiring.*

HOW TO PICK PLANT MATERIAL

Don't expect to find the perfect tree — you probably won't. But you can, with a little care, select a good tree, one that will live up to your expectations once planted.

The advice of a nursery operator is probably your best guarantee for selecting suitable tree species. His business depends in large measure on the repeat patronage of his customers, and on the constant updating of his horticultural skills. Fortunately, there are many first-rate nurseries in the Bay Area, and a few questions asked of experienced tree buyers should quickly identify them. (City agencies are prohibited from recommending commercial dealers.) Feel free to ask the nurseryman any question you think is important. Also, do not hesitate to notify him when your needs have not been satisfied.

When seen with trees of the same age, choose one of medium size:



Tree should have a single straight trunk;

An evenly distributed root system; and

The tree should be pest and disease free.

Here, again, your nurseryman will be your best guide.

HOW TO PLANT A TREE

Care in site preparation, in handling, in planting and initial attention to irrigation, fertilization and staking are important in getting young trees off to a good start.

Prior to planting, the tree should be kept cool and moist (not wet). To help insure the health of the tree, plant as quickly as possible after purchase.

SITE PREPARATION:

A planting hole measuring one cubic yard (three feet wide, three feet deep, three feet long) will usually be sufficient. It is recommended that a premixed commercial planting soil be used; the extra expense involved will pay dividends in healthy tree development. A small amount of a complete*, slow-release fertilizer at planting time will help your tree to produce strong new growth.

Plant with the top of the root ball slightly (1") higher than the surrounding soil. It will settle gradually and help prevent rot at the base of the trunk.

Water thoroughly after the tree is completely planted.

MAINTENANCE

WATERING:

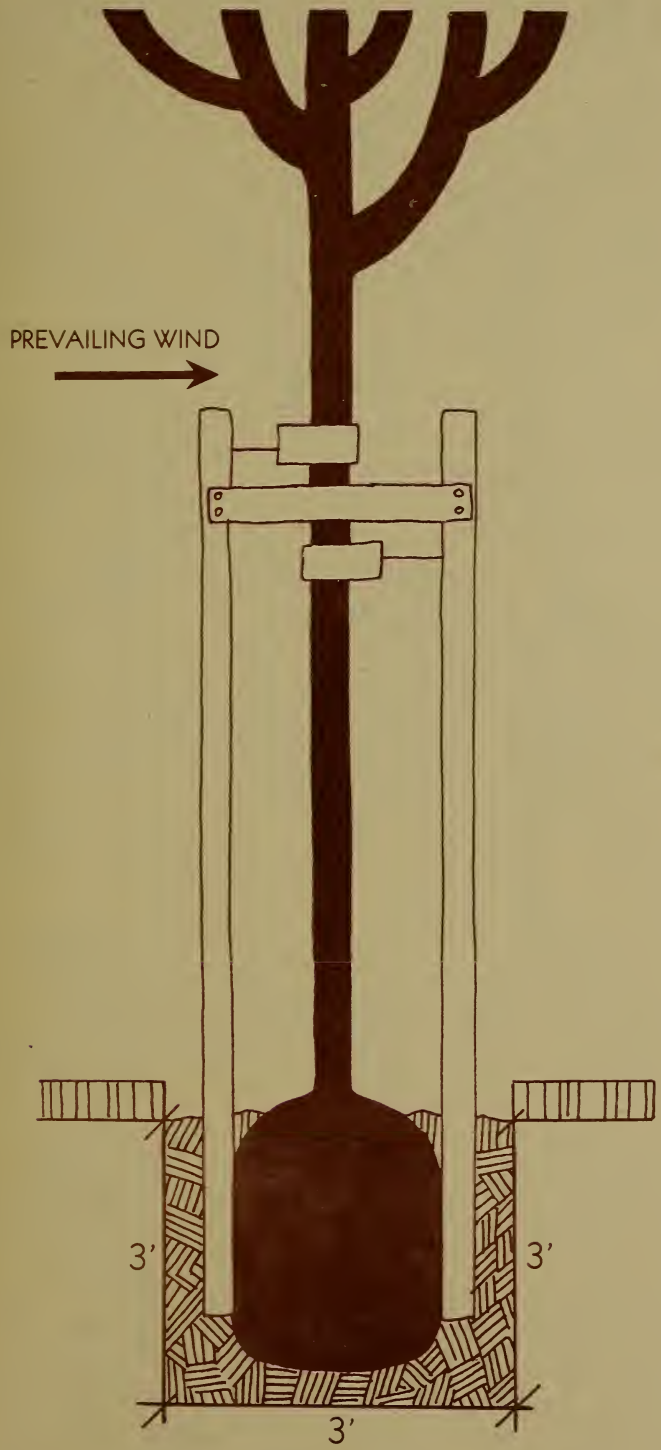
Adequate water is essential to proper tree growth. Ten to fifteen gallons of water applied weekly during the dry season should be sufficient, although some additional irrigation may be necessary during periods of extremely warm weather. Water should be applied as slowly and deeply as possible to insure that the soil is thoroughly moist.

FERTILIZING:

Application of a complete* fertilizer at planting time should be sufficient for the good health of your tree. Avoid fertilizing plants that appear to be under extreme stress.

*Complete Fertilizer: Equal percentages of nitrogen, phosphates and potash (NPK). A typical formula is N-10, P-10, K-10.

HOW TO PLANT A TREE



TREE SELECTION GUIDE

INTRODUCTION

The trees recommended in this guide were selected by a committee of expert botanists and horticulturalists. Besides aesthetic qualities, maintenance, plant adaptations and availability were major considerations. The introduction of new and different species of trees was not as important as the dependability of the tree to perform under San Francisco conditions.

Different tree species grow at different rates. The rates will be indicated for each recommended tree with the following terms:

Rapid (R): more than three feet annually
Moderate (M): between one foot and three feet annually
Slow (S): less than one foot annually

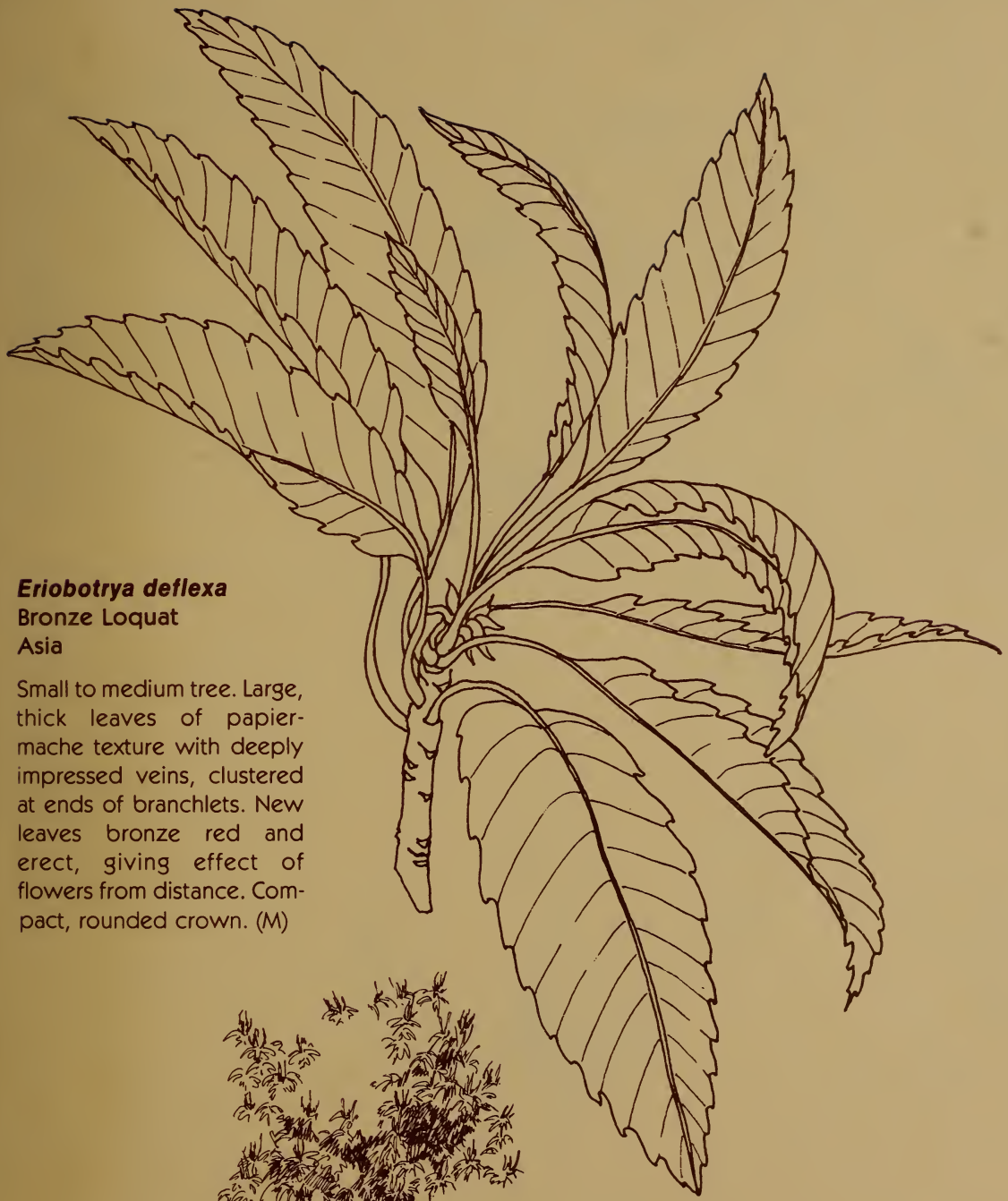
All the recommended trees should also be suitable for growing in containers.

Be sure to check the "Climate" section of the Tree Kit before making your selection.

All the recommended trees are moderate sized.

Ficus microcarpa
Indian Laurel
Southeastern Asia, Borneo

Dense broad crown of shiny light green leaves, easily pruned to retain lollypop shape. Trunk whitish, attractive. No flowers. (Has been called ***Ficus retusa nitida.***) (M)



Eriobotrya deflexa
Bronze Loquat
Asia

Small to medium tree. Large, thick leaves of papier-mache texture with deeply impressed veins, clustered at ends of branchlets. New leaves bronze red and erect, giving effect of flowers from distance. Compact, rounded crown. (M)

Geijera parviflora
Australian Willow
Southeastern Australia

Narrow leaves light green, somewhat drooping. Does not resemble willow. Excellent form and well behaved. In youth, somewhat stiff, becomes more graceful in age. (M)

Maytenus boaria
Mayten
Argentina, Chile

Small, light green leaves on pendulous branchlets give effect of weeping willow. Any pruning should respect this shape. Tree somewhat variable, but cultivar 'Green Showers' assures uniformity. Small capsules arranged along branchlets like necklace open to reveal red seeds. (M)

Metrosideros excelsa
New Zealand
Christmas Tree
New Zealand

Densely leafy tree. Leaves green above, wooly white beneath. The combination of new growth and flowers with brilliant crimson stamens, produces a good show. Tolerates seacoast conditions and wind. Easily pruned. Moderate grower. (M)

Pyrus calleryana
Sand Pear
China

Similar leaf to evergreen pear, but leaves deciduous, less glossy. Leaves turn various shades of red in fall before dropping, providing winter is cold enough. Sparse flowering in San Francisco. Should be planted where adequate soil moisture is available. Cultivar 'Chanticleer' is pyramidal in shape, cultivar 'Bradford' has oval crown. Good shape with no trimming. (M-R)

Pyrus kawakamii
Evergreen Pear
Taiwan

Known especially for lustrous, glossy dark green leaves and smooth gray-brown bark. Also for picturesque branch pattern, somewhat droopy. Attractive white flowers sparse in San Francisco. (M-R)

Tristania conferta
Brisbane Box
Southeastern Australia

Bark salmon color, attractive; in age resembles California madrone. Broad tapering leaf, about 5-6 inches long, slightly glossy above, dark green. White flowers not showy. Moderate grower, eventually needs pruning but is easily pruned. Tolerates wind, heavy soil and poor drainage. (M-R)

Tristania laurina
Southeastern Australia

Good form and attractive mottled bark of dull pink, gray and brown. Slow growing, therefore needs little or no pruning. Clusters of small golden yellow flowers not showy. Tolerates heavy soil and poor drainage. Cultivar 'Elegant' has broad leaves. (S)

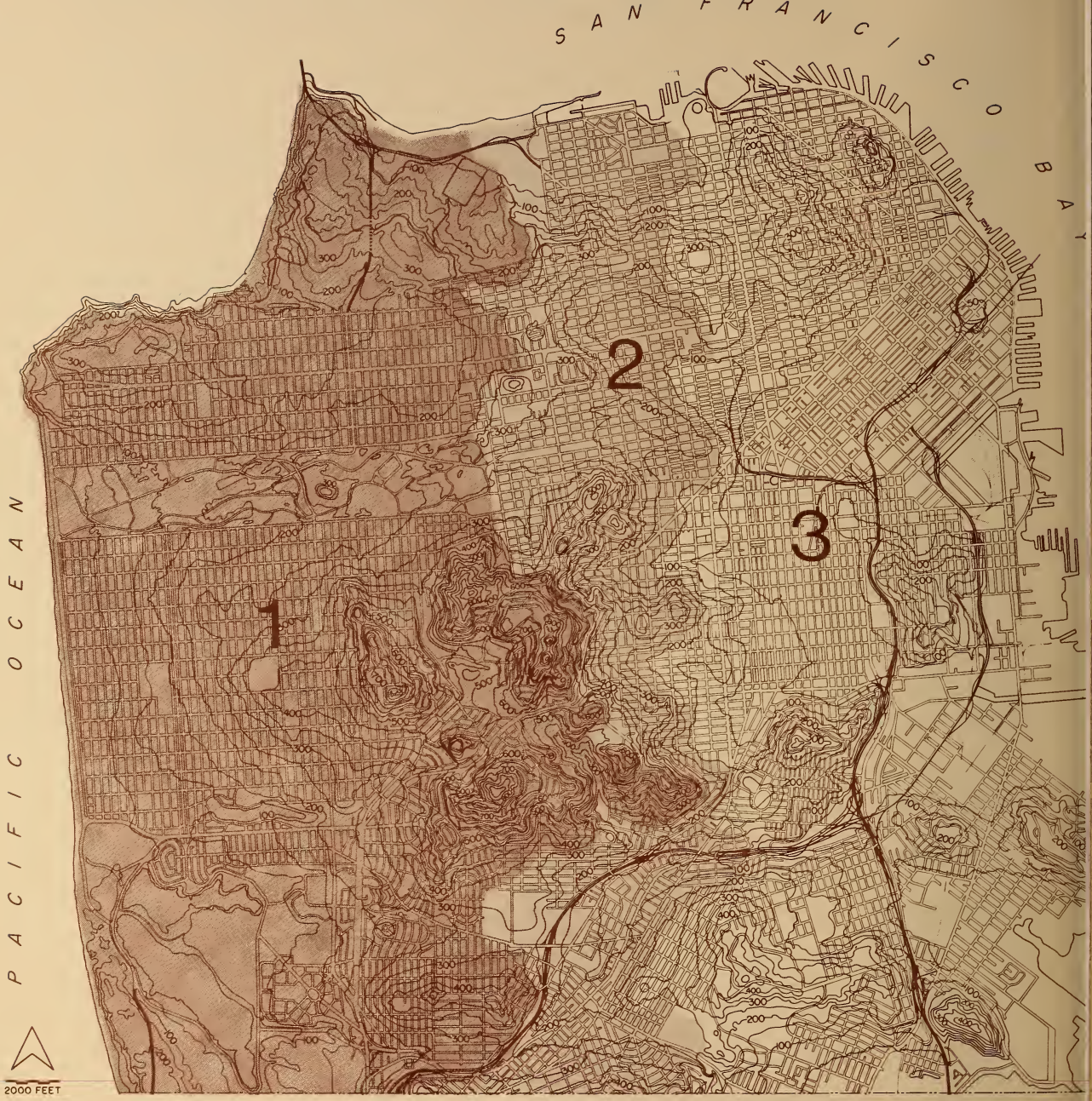
Pittosporum undulatum
Victorian Box

Dense, round crown of fairly deep green leaves 4-5 inches long, needs occasional pruning to maintain proper size. Clusters of small cream-colored, orange-scented flowers followed by spherical, ¾-inch orange fruits. Seeds slightly sticky. Tolerates wind. (M)

SUPPLEMENTAL LIST OF TREES

Botanical and Common Names Origin	Description and comments
Agonis flexuosa Australian Willow-Myrtle Australia	Attractive, weeping willow-like tree, shreddy brown bark, narrow leaves, tiny white flowers in small heads. Branchlets flexible. Needs staking when young. Tolerates wind. (M-R)
Arbutus unedo Strawberry Tree Europe	Small, slow-growing tree, bark shreddy, reddish-brown. Bark, small white flowers and red, edible fruits are of interest. (S-M)
Callistemon citrinus Lemon Bottlebrush Australia	Small tree, moderate grower, narrow leaves somewhat lemon scented when crushed. Brilliant red flowers in a showy bottlebrush. Trunk needs staking when young. Tolerates wind. (R)
Callistemon viminalis Weeping Bottlebrush Australia	Tall, rough-barked tree, graceful and weeping, taller than ***Callistemon citrinus.*** Salmon-red flowers in a showy bottlebrush. Tolerates wind. (R)
Corynocarpus laevigata New Zealand Laurel New Zealand	Small tree, leaves large, glossy, leathery. Flowers inconspicuously small; oval, orange fruit has a large seed, poisonous if eaten. (S)
Dodonaea viscosa 'Purpurea' Purple Hop Bush Selected cultivar	Slender tree, bark shreddy, orange-brown. Narrow, dark wine colored leaves are a special feature, as are the attractive seeds with papery, bronze-red wings. (R)
Eucalyptus scoparia White Gum Australia	Slender, gracefully pendant tree, bark smooth, whitish, leaves long and narrow on reddish branchlets. Moderately fast growing. (M)
Ginkgo biloba Maidenhair Tree Extinct in the wild	Graceful deciduous tree, broad-crowned to pyramidal. Unusual leaves, fan-shaped, turn golden-yellow in fall. Important that terminal leader not be pruned. Intolerant to wind. (S)
Hymenosporum flavum Sweetshade Australia	Pyramidal tree, a moderate grower. Noted for fragrant, orange-yellow flowers. (S-M)
Ligustrum lucidum Glossy Privet China, Korea	Broad-crowned tree, leaves glossy, oval, tapered. Small white flowers in clusters, followed by black fruits. Moderate grower. Takes wind. (M)

Botanical and Common Names Origin	Description and comments
Melaleuca linariifolia Flax-leaved Paperbark Australia	Tree with somewhat spreading crown, attractive white bark, spongy, peels in papery sheets. Slender light-green leaves, numerous small white flowers in loose bottlebrushes appear twice a year. Tolerant to water-logged soil. (S-M)
Melaleuca nesophila Pink Melaleuca Australia	Small tree, broadly spreading crown, bark thick spongy, peeling, short oblong leaves, pink flowers in pompons. Needs little pruning, takes drought and wind. Stake when young. (S-M)
Metrosideros robustus New Zealand Christmas Tree North Island Rata New Zealand	Tree with spreading crown and similar virtues to ***Metrosideros excelsa.*** Leaves dark green on both surfaces, numerous clustered copper-red flowers. (M)
Nerium oleander Oleander Mediterranean Region	Small tree, leaves leathery. Attractive flowers, pink, salmon, yellow or white. All parts of plant are poisonous if eaten. Does not flower well in cooler parts of city. Drought resistant. Wind tolerant. (M-R)
Photinia x fraseri Hybrid Origin	Small tree, leaves large, glossy. Special feature is the attractive, bronze-red new growth. (M)
Pittosporum eugenioides Lemonwood New Zealand	Medium-sized tree, smooth, whitish bark, leaves yellow-green, with wavy margins. Numerous small, yellow flowers in clusters followed by small black capsules. Wind tolerant. (M-R)
Pittosporum crassifolium Karo New Zealand	Medium upright tree, gray bark, leaves shiny above with gray smoky undersides. Has sticky seeds. Especially good for wind and seacoast conditions.
Podocarpus gracilior Fern Pine East Africa	Tree with spreading crown, narrow, light green leaves. Trunk and branches weak when young, needs staking. (S)
Prunus x blireiana Hybrid Origin	Small deciduous tree, spreading crown. Leaves purplish-red, turning greenish-bronze in summer. Attractive, fragrant flowers, double pink. (M)



CLIMATE MAP OF SAN FRANCISCO

CLIMATE

The climate of San Francisco is moderate, with relatively few instances of extremely high or low temperatures. In general, warmer temperatures prevail in areas east of Twin Peaks, while a cooler climate predominates closer to the Pacific Ocean. There is a very short dormant (rest) period in San Francisco. These climate zones are intended as general guidelines. Plants which do well in one place may not thrive a mile or two away. Take into consideration the microclimate (wind, sun, shade, etc.) of the specific location where you are planting. Experience and observation are the best guides to good plant selection, and the enclosed tree list is based on these factors.

ZONE 1

Fog-belt

Sunset-Parkside
Richmond
Lake Merced
West of Twin Peaks
Diamond Heights
Ingleside
Ocean View
Merced Heights

ZONE 2

Transition-zone

Haight-Buena Vista
Marina-Pacific Heights
Glen Park
Noe Valley
Excelsior or Outer Mission
Western Addition

ZONE 3

Sun-belt

Mission
Telegraph Hill
Russian Hill
Nob Hill
South of Market
Hunters Point-Bayview
Potrero Hill
Bernal Heights
Visitacion Valley

Wind and Seacoast Conditions are probably the two most important climate considerations in San Francisco. If you live near the coast or on a very windy east-west street, use those trees noted as tolerant to wind or seacoast conditions.

PRUNING

Aside from irrigation, perhaps the most essential facet of tree maintenance is pruning. The main reasons for pruning a tree include health, safety and general appearance. It is often necessary to control the growth of the tree to keep it within the bounds of the space in which it is planted.

The following are some points to remember when pruning.

1. *Use tools which are sharp and clean.*
2. *Dead or diseased wood should be removed.*
3. *Do not leave stubs, since the tree is unable to heal the pruning wound and this provides an entry point for disease and pests.*
4. *Remove crossing branches which tend to rub against each other.*
5. *Shorten limbs which might interfere with overhead wires or lights.*
6. *Retain the original shape of the tree as closely as possible.*

The way you prune your tree will determine the form it will have in the future. Be a little cautious when making your cuts; you can always remove a little more growth, but you cannot replace that removed by mistake.

CROWN — The top of a tree above the trunk or trunks

DECIDUOUS TREE — Tree which loses all leaves in a relatively short time in the fall

EVERGREEN TREE — Tree which retains leaves through the winter

FRAMEWORK — The basic branch structure of a tree which gives it shape

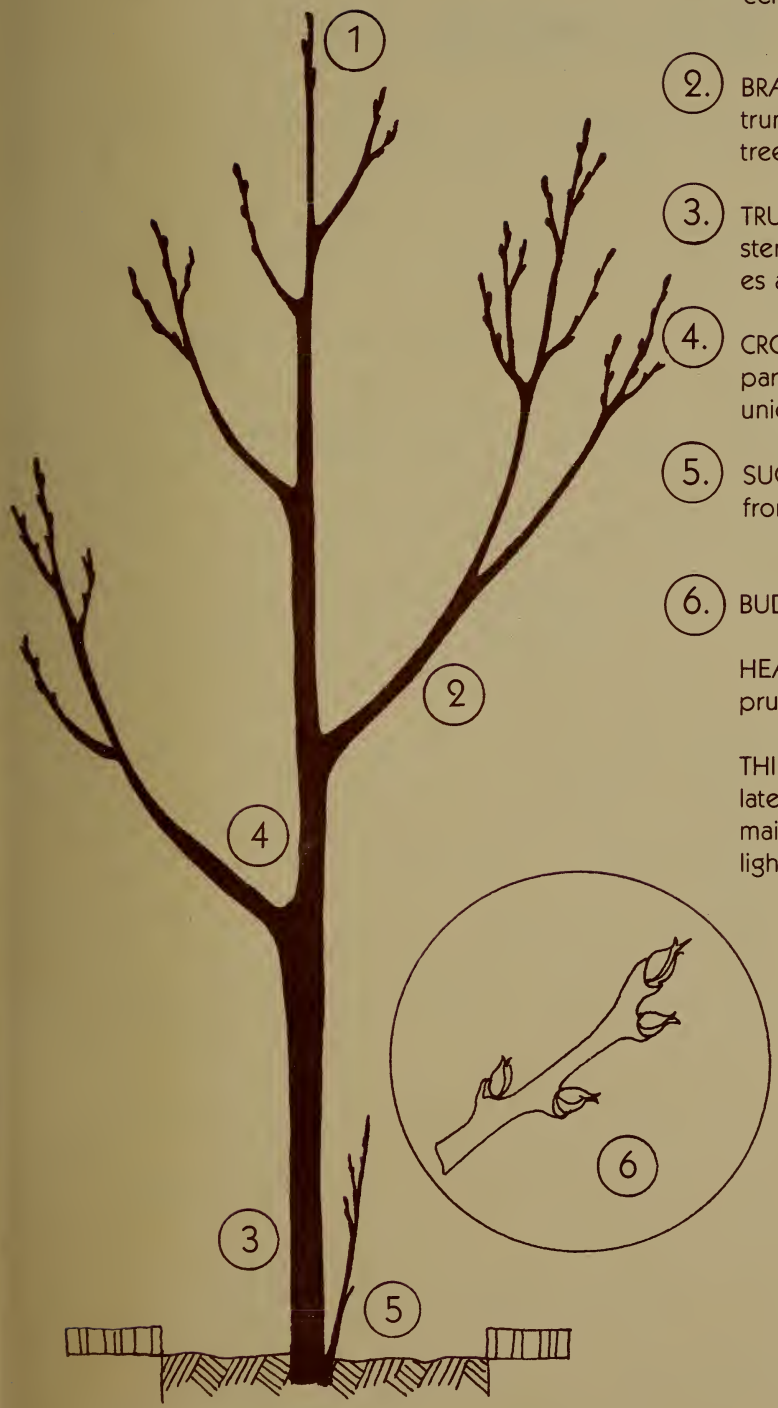
LATERAL — Branch attached to and subordinate to the trunk or another branch

PRUNE — Remove parts of a plant

SHOOT — A new stem with leaves

STUB — Remains of an improperly pruned branch

TREE — A woody perennial plant usually having a single main trunk and exceeding ten feet in height.



1. LEADER — Primary branch in the center of the tree

2. BRANCH — A stem growing from the trunk or from another branch of the tree

3. TRUNK — The central or main upright stem from which the crown branches arise or scaffolds originate

4. CROTCH — The angle formed by the parting of two branches, or the union of a branch and the trunk

5. SUCKER — A vigorous shoot arising from the trunk or roots

6. BUD — An undeveloped shoot

HEADING BACK — The shoots are pruned just above well-placed buds

THINNING OUT — Shoots and weak laterals growing into or crossing main branches are removed to admit light and air

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'Sunset New Western Garden Book,' by the Editors of Sunset Magazine & Sunset Books, copyright Lane Publishing, Menlo Park 1979

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